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AQ 1014-2005

Safety Inspecting-testing Specification of In-service Friction Hoist System for Coal Mine

煤矿在用摩擦式提升机系统安全检测检验规范

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煤矿在用摩擦式提升机系统安全检测检验规范

1 Scope

This standard specifies safety testing/inspecting items and their technical requirements for in-service friction hoist system for coal mine (friction hoist).

This standard is applicable to onsite testing and inspecting for in-service friction hoist system for coal mine.

2 Normative References

The following documents contain provisions which, through reference in this text, constitute provisions of this Standard. For dated reference, subsequent amendments to (excluding correction to), or revisions of, any of these publications do not apply. However, the parties whose enter into agreement according to this Standard are encouraged to research whether the latest editions hereof are applied or not. However, all parties coming to an agreement according to this standard are encouraged to study whether the latest editions of these documents are applicable.

GB/T 3768-1996 Acoustics - Determination of Sound Power Levels of Noise Sources Using Sound Pressure - Survey Method Using an Enveloping Measurement Surface over a Reflecting Plane (MOD ISO 3746: 1994)

GB/T 10599-1998 Multi-rope Mining Friction Hoist

JB 3277-91 Hydraulic Station for Mine Hoists and Mine Hoisting Winches

JB 8516-1997 Mine Hoists and Mine Hoisting Winch - Safety Requirements

JB 8519-1997 Mine Hoist and Mine Hoisting Winch - Disc Brake

"Safety Regulations in Coal Mine" (Edition 2004)

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3 Basic Requirements on Inspection

3.1 The inspected in-service friction hoist system for coal mine shall be able to run normally as required by "Safety Regulations in Coal Mine".

3.2 Friction hoist shall be the product conforming to the requirements on technical and safety performance specified by GB/T 10599 and JB 8516.

4 Inspection Items and Technical Requirements

4.1 Machine Room

4.1.1 The machine room shall be equipped with complete lighting facilities, providing enough light and proper illumination, as well as emergency lighting facilities.

4.1.2 The noise level in workplace shall not be higher than 85 dB(A) according to GB/T 3768. Where the noise level is higher than 85 dB (A), the staffs need wear personal protective devices; where higher than 90 dB (A), the measures to reduce noise in workplace shall be taken.

4.1.3 The temperature and humidity in machine room shall meet the industrial hygiene standards and the environment requirements for the equipment.

4.1.4 The machine room shall be equipped with fire-fighting facilities, and the equipment shall be arranged with barrier shielding and warning board.

4.1.5 Braking system diagram, electric system diagram and technical features for lifting device shall be hung in the winch machine room.

4.1.6 The exposed rotating components, such as coupling and exposed gear, shall be arranged with fixed protective device.

4.1.7 In a vertical shaft, the maximum loading and maximum loading difference of the hoisting device shall be announced at the shaft top.

4.2 Hoisting Device

4.2.1 The main axle and drum of the hoist, after being inspected, shall have no defect that reduce mechanical performance and service performance.

4.2.2 The ratio of the diameter of the head sheave, driving friction pulley and guide sheave to the diameter of the thickest wire in the steel wire rope shall not be less than 1200 in vertical shaft.

4.2.3 The ratio of the minimum diameter of the drum, the head sheave and the guide sheave to the diameter of the steel wire rope shall meet the following requirements:

a) For floor-type tower-shape friction hoisting device with guide sheave, the ratio above shall not be less than 90 over the shaft; and shall not be less than 80 under the shaft.

b) For floor-type tower-shape friction hoisting device without guide sheave, the ratio above shall not be less than 80 over the shaft; and shall not be less than 70 under the shaft.

4.2.4 The hoisting speed and maximum deceleration/acceleration shall meet the following requirements:

a) The maximum speed (υ) of the cage for hoisting person in vertical shaft shall not

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